Data Validation Checklist
Inorganic Analyses

Project:	35TH Avenue Superfund Site	Project No:	60430028; 1
Laboratory:	TestAmerica – Savannah, GA	Job ID.:	680-106803-3
Method:	SW-846 6010C[1]	Associated Samples:	Refer to **Attachment A** (Sample Summary)
Matrix:	Soil	Date(s) Collected:	10/29/2014-10/30/2014
Reviewer:	Kelly Brannigan, URS Group, Inc.	Date:	08/26/2015
Concurrence[2]:	Martha Meyers-Lee, URS Group, Inc.	Date:	08/31/2015

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
1. Were sample preservation requirements met? If pH of aqueous sample >2 and was not adjusted by laboratory prior to analysis, J- flag positive results and R- flag non-detect results.	✓				
2. Were all COC records signed and integrity seals intact, indicating that COC was maintained for all samples?	✓				
3. Were there any problems noted in laboratory data package concerning condition of samples upon receipt?		✓			
4. Do any soil/sediment samples contain more than 50% water? If yes, then results are to be reported on a wet-weight basis.		✓			
5. Have any technical holding times, determined from date of collection to date of analysis, been exceeded? (Hg: ≤28 days, other metals: ≤6 months; Cr+6: ≤24 hours from extraction). If not, then J- flag positive results and R- flag non-detect aqueous results.		✓			
6. Were results for all project-specified target analytes reported?	✓				
7. Were project-specified Reporting Limits achieved for undiluted sample analyses?		✓		Resident Soil RSL with THQ = 1.0 (ORNL, June 2015) for target analytes: • Aluminum: 77000 mg/kg • Arsenic: 0.68 mg/Kg • Iron: 55000 mg/kg • Lead: 400 mg/Kg The MDL for each target analyte was less than the respective above-mentioned RSL in undiluted samples, except arsenic in samples 680-106803-42 (CV0971AI-GS18"), 680-106803-43 (CV0971AI-GS24"), 680-106803-47 (CV0971K-CS18"), 680-106803-48 (CV0971K-CS24"), 680-106803-49 (FM016AVa-CSO-4"), and 680-106803-50 (FM016AVb-CSO-4"). A data gap does not exist, as arsenic was detected in the above-mentioned samples.	

[1]Aluminum, arsenic, iron, and lead
[2] Independent technical reviewer

Data Validation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
8. Were method blank (MB) prepared at the appropriate frequency (one per 20 samples, batch, matrix, and level)?	✓				
9. Was a calibration blank (ICB/CCB) analyzed at the beginning, after every 10th sample, and at the end of each analytical run?	✓				
10. Were target analytes detected in the method and/or calibration blanks?		✓		Target analytes were not detected in the method blanks. Calibration blanks were not evaluated.	
11. Were target analytes reported in equipment/rinsate blanks analyses above the DL?			✓	According to the QAPP, a rinsate blank is to be collected after each decontamination event, which occurs once a week, per the client. A rinsate blank is not associated with this sampling event. Blank contamination will be evaluated based on method blank results.	
12. Were contaminants detected in samples below the blank contamination action level? o If blank result > RL, • Flag sample results ≤ RL with a U • Flag positive sample results > RL and ≤10x blank result , as J+ positive results o If blank result ≤RL, • Flag sample results ≤ RL with a U • Flag positive sample results > RL and ≤10x blank result , as J+ positive results			✓	Target analytes were not detected during the analysis of the method blanks. An evaluation of the effect of blank contamination on soil sample results was based on method blank results, and not calibration blank results.	
13. Are there negative laboratory blank results with the absolute value ≤RL? If yes, then flag positive and non-detect sample results that are < 10x absolute blank value as J- and UJ, respectively.		✓			
14. Was a field duplicate analyzed?	✓			• CV0971A-CSD18" (680-106803-59) is a field duplicate of CV0971A-CS18" (680-106803-58) • CV0971E-CSD12" (680-106803-53) is a field duplicate of CV0971E-CS12" (680-106803-52) • CV0971K-CSD6" (680-106803-45) is a field duplicate of CV0971K-CS6" (680-106803-44)	
15. Was precision deemed acceptable as defined by the project plans?		✓		Refer to **Attachment B** (Field Duplicate Evaluation)	J
16. Were initial and continuing calibration standards analyzed at the lab/project-specified frequency for each instrument? o 6010C: • ICAL: Blank and one standard • ICV initially, and CCV every 10th sample and at the end of the analytical run • Lower Limit of Quantitation Check Sample (CRI) to be analyzed after establishing lower laboratory reporting limits and as needed	✓			6010C: 11/04/2014 and 11/05/2014. One blank and one standard initially. ICV initially, and CCV every 10 samples and at end of run. CRI after initial calibration blank analysis.	

Data Validation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
17. Were these results within lab/project specifications? o 6010C • ICV/CCV (Criteria: 90-110%R): ▪ If %R <75, then J- flag positive results and R-flag non-detects ▪ If 75-89%R, then J- flag positive results and UJ flag non-detects ▪ If 111-125%R, then J flag positive results ▪ If >125%R, then J+ flag positive results ▪ If >160%R, then R flag positive results • CRI (Method: 70-130%R, Laboratory: 50-150%R; Project: 50-150%R for Sb, Pb, and Tl, and 70-130%R for all other analytes): ▪ If CRI %R <50 (<30% for Sb, Pb, TL), then R flag results ≤ 2x RL and J flag positive results >2x RL ▪ If CRI %R 50-69% (30-49% for Sb, Pb, TL), then J- and UJ flag positive results <2x RL and ND, respectively ▪ If CRI %R >130% and ≤180% (>150%, but ≤200% for Sb, Pb, TL), then J+ flag positive results <2x RL ▪ If CRI %R >180% (>200% for Sb, Pb, TL), then R flag positive results	✓				
18. Was the interference check sample (ICS) analyzed at the beginning of each ICP analytical run?	✓				
19. Are ICS recoveries within 80-120% of the true value? If not, qualify data as follows when native Al, Fe, Ca, and Mg sample concentrations are equal to or greater than the ICS spiking level: o If >120%R (or >true value plus 2x CRQL), J+ flag positive results o If 50-79%R (or less than true value – 2x the CRQL), J- flag positive results and UJ flag non-detects o If <50%R, J- flag positive results and R-flag non-detects	✓				
20. Was a LCS analyzed for each preparation batch (one per 20 samples per matrix and level)?	✓				
21. Did LCS recoveries meet method/laboratory/project (80-120%R) specifications? o Soil: • LCS result > Upper control limit (UCL): J+ flag positive results • LCS result < Lower control limit (LCL): J- flag positive results and UJ flag non-detects	✓				

Data Validation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
22. Was the RPD between LCS and LCSD results within method/laboratory /project control limits (≤20%RPD)? If not, J and UJ flag positive and non-detect results, respectively			✓	LCS only	
23. Was a Matrix Spike (MS) and Matrix Spike Duplicate (MSD) analyzed once per preparation batch?	✓				
24. Is the MS and MSD parent sample a project-specific sample?	✓	✓		• Batch 356624: 680-106803-25 (Batch), MS/MSD • Batch 356708: 680-106803-55 (CV0971E-CS24"), MS/MSD	
25. Was a post-digestion spike (PDS) analysis conducted when MS and/or MSD results did not meet control limits (Note: PDS is not required for silver, mercury, or hexavalent chromium)?	✓			• 680-106803-25 (Batch) • 680-106803-30 (Batch)	
26. For all analytes with sample concentration < 4 x spike concentration, are spike recoveries within method (6010C: 75-125%R MS/MSD and 80-120%R PDS; 7471A: 80-120%R MS/MSD; 7196A: 85-115%R MS), laboratory (MS, MSD, and PDS: 75-125%R for 6010C/7471 (as applicable) and 80-120%R for 7196), and project (as noted below) specifications? *Only QC results for project samples are evaluated.* If not, o 6010C: • If MS %R <30 and PDS %R <75, then J- and R Flag positive and ND results, respectively • If MS %R <30 and PDS %R >75, then J flag positive and UJ flag non-detect results • If MS and MSD %R 30-74 and PDS%R <75, then J- flag positive and UJ flag non-detect results • If MS and MSD %R 30-74 and PDS%R ≥75, then J flag positive and UJ flag non-detect results • If MS, MSD, and PDS %R >125, J+ flag positive results • If MS and MSD %R >125 and PDS %R ≤125, then J flag positive results • If MS and MSD %R <30 and no PDS, then J- flag positive and R-flag non-detect results • If MS and MSD %R 30-74 and no PDS, then J- and UJ flag positive and non-detect results, respectively • If MS and MSD %R >125 and no PDS, then J+ flag positive results			✓	An evaluation of matrix interference based on MS and MSD results is not possible for sample CV0971E-CS24", as native sample concentrations were greater than 4x the spiking level.	
27. Were laboratory/project (≤20%RPD) criteria met for precision during the MS and MSD analysis? *Only QC results for project samples are evaluated.* o If RPD >20%, J and UJ flag positive and non-detect results.	✓				
28. Was a serial dilution conducted for 6010C/EPA 200.7?	✓				
29. Is the serial dilution parent sample a project-specific sample?		✓		• 680-106803- 25 (Batch) • 680-106803-30 (Batch)	

Data Validation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
30. Is the percent difference between the serially diluted result and undiluted result less 10% (for those analytes with native concentrations greater than 50x the DL)? *Only QC results for project samples are evaluated.* o If %D >10, J and UJ flag positive and non-detect results, respectively.			✓		
31. Was a laboratory duplicate analyzed?		✓			
32. Was the lab duplicate analysis conducted on a project-specific sample?			✓		
33. Were criteria for laboratory/project precision met? *Only QC results for project samples are evaluated.* o If RPD values >20% (35% for soil/sediment) or absolute difference > RL (2x RL for soil/sediment), then J and UJ flag positive and non-detect results, respectively			✓		
34. Were lab comments included in report? If yes, summarize contents or attach a copy of the narrative.	✓			Refer to **Attachment C** (Case Narrative)	

Comments: The data validation was conducted in accordance with the *Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1* (OTIE, October 2012). The data review process was modeled after the *USEPA Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Inorganic Data Review* (EPA 540-R-04-004, October 2004). Sample results have been qualified based on the results of the data review process (**Attachment D**). Criteria for acceptability of data were based upon available site information, analytical method requirements, guidance documents, and professional judgment.

DV Flag Definitions:

J- The result is an estimated quantity, but the result may be biased low.
J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+ The result is an estimated quantity, but the result may be biased high.
R The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.
U The analyte was analyzed for, but was not detected above the associated level; blank contamination may exist.
UJ The analyte was analyzed for, but was not detected. The reported limit is approximate and may be inaccurate or imprecise.

ATTACHMENT A

SAMPLE SUMMARY

SAMPLE SUMMARY

Client: Oneida Total Integrated Enterprises LLC

Job Number: 680-106803-3
Sdg Number: 680-106803-03

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
680-106803-41	CV0971AI-GS12"	Solid	10/29/2014 1445	10/31/2014 0934
680-106803-42	CV0971AI-GS18"	Solid	10/29/2014 1455	10/31/2014 0934
680-106803-43	CV0971AI-GS24"	Solid	10/29/2014 1500	10/31/2014 0934
680-106803-44	CV0971K-CS6"	Solid	10/29/2014 1630	10/31/2014 0934
680-106803-45	CV0971K-CSD6"	Solid	10/29/2014 1635	10/31/2014 0934
680-106803-46	CV0971K-CS12"	Solid	10/29/2014 1645	10/31/2014 0934
680-106803-47	CV0971K-CS18"	Solid	10/29/2014 1700	10/31/2014 0934
680-106803-48	CV0971K-CS24"	Solid	10/29/2014 1715	10/31/2014 0934
680-106803-49	FM0161AVa-CSO-4"	Solid	10/30/2014 0930	10/31/2014 0934
680-106803-50	FM0161AVb-CSO-4"	Solid	10/30/2014 0945	10/31/2014 0934
680-106803-51	CV0971E-CS6"	Solid	10/30/2014 1020	10/31/2014 0934
680-106803-52	CV0971E-CS12"	Solid	10/30/2014 1035	10/31/2014 0934
680-106803-53	CV0971E-CSD12"	Solid	10/30/2014 1040	10/31/2014 0934
680-106803-54	CV0971E-CS18"	Solid	10/30/2014 1050	10/31/2014 0934
680-106803-55	CV0971E-CS24"	Solid	10/30/2014 1105	10/31/2014 0934
680-106803-55MS	CV0971E-CS24"	Solid	10/30/2014 1300	10/31/2014 0934
680-106803-55MSD	CV0971E-CS24"	Solid	10/30/2014 1300	10/31/2014 0934
680-106803-56	CV0971A-CS6"	Solid	10/30/2014 1300	10/31/2014 0934
680-106803-57	CV0971A-CS12"	Solid	10/30/2014 1315	10/31/2014 0934
680-106803-58	CV0971A-CS18"	Solid	10/30/2014 1330	10/31/2014 0934
680-106803-59	CV0971A-CSD18"	Solid	10/30/2014 1335	10/31/2014 0934
680-106803-60	CV0971A-CS24"	Solid	10/30/2014 1400	10/31/2014 0934

ATTACHMENT B

FIELD DUPLICATE EVAULATION

Evaluation of Field Duplicate Results **Attachment B**

Analyte	CV0971K-CS6" 680-106803-44	RL	CV0971K-CSD6" 680-106803-45	RL	Unit	Avg. RLx5	RPD	Absolute difference	2x Avg RL	Action
Aluminum	15000	21	15000	22	mg/kg	108	**0**	NA	NA	None, RPD ≤ 50%
Arsenic	36	2.1	35	2.2	mg/kg	10.8	**3**	NA	NA	None, RPD ≤ 50%
Iron	43000	21	50000	22	mg/kg	108	**15**	NA	NA	None, RPD ≤ 50%
Lead	210	1.0	170	1.1	mg/kg	5.3	**21**	NA	NA	None, RPD ≤ 50%

Note: If the analyte was not detected, then the cell was left blank.

mg/kg - milligrams per kilogram
J - Estimated value
NA - Not applicable
RL - Reporting limit
RPD - Relative percent difference
UJ - Not detected and the limit is estimated

Precision is based on either the absolute difference between sample results or RPD. If the sample results are less than or equal to 5x's the RL, then precision is based on the absolute difference between duplicate results. If sample results >5x's RL, then precision is evaluated using RPD. J-Flag sample results whenever the absolute difference is greater than the RL (2x for soils) or the RPD >20% (50% for soil). Table

Evaluation of Field Duplicate Results **Attachment B**

Analyte	CV0971E-CS12" 680-106803-52	RL	CV0971E-CSD12" 680-106803-53	RL	Unit	Avg. RLx5	RPD	Absolute difference	2x Avg RL	Action
Aluminum	15000	21	14000	21	mg/kg	105	**7**	NA	NA	None, RPD ≤ 50%
Arsenic	34	2.1	28	2.1	mg/kg	10.5	**19**	NA	NA	None, RPD ≤ 50%
Iron	72000	21	40000	21	mg/kg	105	**57**	NA	NA	**J/UJ-flag, RPD > 50%**
Lead	90	1.1	110	1.1	mg/kg	5.5	**20**	NA	NA	None, RPD ≤ 50%

Note: If the analyte was not detected, then the cell was left blank.

mg/kg - milligrams per kilogram
NA - Not applicable
RL - Reporting limit
RPD - Relative percent difference

Precision is based on either the absolute difference between sample results or RPD. If the sample results are less than or equal to 5x's the RL, then precision is based on the absolute difference between duplicate results. If sample results >5x's RL, then precision is evaluated using RPD. J-Flag sample results whenever the absolute difference is greater than the RL (2x for soils) or the RPD >20% (50% for soil). Table above presents the results

Evaluation of Field Duplicate Results **Attachment B**

Analyte	CV0971A-CS18" 680-106803-58	RL	CV0971A-CSD12" 680-106803-59	RL	Unit	Avg. RLx5	RPD	Absolute difference	2x Avg RL	Action
Aluminum	15000	22	14000	22	mg/kg	110	**7**	NA	NA	None, RPD ≤ 50%
Arsenic	32	2.2	35	2.2	mg/kg	11	**9**	NA	NA	None, RPD ≤ 50%
Iron	40000	22	53000	22	mg/kg	110	**28**	NA	NA	None, RPD ≤ 50%
Lead	62	1.1	99	1.1	mg/kg	5.5	**46**	NA	NA	None, RPD ≤ 50%

Note: If the analyte was not detected, then the cell was left blank.

mg/kg - milligrams per kilogram
NA - Not applicable
RL - Reporting limit
RPD - Relative percent difference

Precision is based on either the absolute difference between sample results or RPD. If the sample results are less than or equal to 5x's the RL, then precision is based on the absolute difference between duplicate results. If sample results >5x's RL, then precision is evaluated using RPD. J-Flag sample results whenever the absolute difference is greater than the RL (2x for soils) or the RPD >20% (50% for soil). Table

ATTACHMENT C

CASE NARRATIVE

CASE NARRATIVE
Client: Oneida Total Integrated Enterprises LLC
Project: 35th Avenue Superfund Site
Report Number: 680-106803-3

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

No additional analytical or quality issues were noted, other than those described below or in the Definitions/Glossary page.

RECEIPT

The samples were received on 10/31/2014 9:34 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 3.6º C, 4.2º C and 4.4º C.

SEMIVOLATILE ORGANIC COMPOUNDS (GC/MS) LOW LEVEL PAH

Samples CV0971AI-GS12" (680-106803-41), CV0971AI-GS18" (680-106803-42), CV0971AI-GS24" (680-106803-43), CV0971K-CS6" (680-106803-44), CV0971K-CSD6" (680-106803-45), CV0971K-CS12" (680-106803-46), CV0971K-CS18" (680-106803-47), CV0971K-CS24" (680-106803-48), FM0161AVa-CSO-4" (680-106803-49), FM0161AVb-CSO-4" (680-106803-50), CV0971E-CS6" (680-106803-51), CV0971E-CS12" (680-106803-52), CV0971E-CSD12" (680-106803-53), CV0971E-CS18" (680-106803-54), CV0971E-CS24" (680-106803-55), CV0971A-CS6" (680-106803-56), CV0971A-CS12" (680-106803-57), CV0971A-CS18" (680-106803-58), CV0971A-CSD18" (680-106803-59) and CV0971A-CS24" (680-106803-60) were analyzed for Semivolatile Organic Compounds (GC/MS) Low level PAH in accordance with EPA SW846 Method 8270D.

Method(s) 8270D_LL_PAH: Manual integration was performed on the following sample(s): CV0971A-CS6" (680-106803-56), CV0971AI-GS24" (680-106803-43), CV0971E-CS24" (680-106803-55), CV0971K-CS12" (680-106803-46), CV0971K-CS18" (680-106803-47), CV0971K-CS24" (680-106803-48), CV0971K-CS6" (680-106803-44), CV0971K-CSD6" (680-106803-45), FM0161AVa-CSO-4" (680-106803-49), FM0161AVb-CSO-4" (680-106803-50, CV0971A-CS12" (680-106803-57), CV0971A-CS18" (680-106803-58), CV0971A-CS24" (680-106803-60), CV0971A-CSD18" (680-106803-59), CV0971AI-GS12" (680-106803-41), CV0971AI-GS18" (680-106803-42), CV0971E-CS12" (680-106803-52), CV0971E-CS18" (680-106803-54), CV0971E-CS6" (680-106803-51), CV0971E-CSD12" (680-106803-53).

Method(s) 8270D_LL_PAH: The following sample(s) was diluted due to the nature of the sample matrix: CV0971A-CS6" (680-106803-56), CV0971AI-GS24" (680-106803-43), CV0971E-CS24" (680-106803-55), CV0971E-CS24" (680-106803-55 MSD), CV0971K-CS24" (680-106803-48), CV0971K-CS6" (680-106803-44), CV0971K-CSD6" (680-106803-45), FM0161AVa-CSO-4" (680-106803-49), FM0161AVb-CSO-4" (680-106803-50), CV0971A-CS12" (680-106803-57), CV0971A-CS18" (680-106803-58), CV0971A-CS24" (680-106803-60), CV0971A-CSD18" (680-106803-59), CV0971E-CS24" (680-106803-55 MS), CV0971E-CS12" (680-106803-52), CV0971E-CS18" (680-106803-54), CV0971E-CS6" (680-106803-51), CV0971E-CSD12" (680-106803-53). Because of this dilution, the surrogate spikes are not reported.

Method(s) 8270D_LL_PAH: The following sample(s) was diluted due to the nature of the sample matrix: CV0971E-CS24" (680-106803-55 MS). As such, surrogate and MS/MSD spike recoveries were diluted out and are not reported.

2-Methylnaphthalene recovery is outside criteria low for the MSD of sample CV0971E-CS24"MSD (680-106803-55) in batch 680-356857. Benzo[a]anthracene exceeded the RPD limit.

Refer to the QC report for details.

METALS (ICP)

Samples CV0971AI-GS12" (680-106803-41), CV0971AI-GS18" (680-106803-42), CV0971AI-GS24" (680-106803-43), CV0971K-CS6" (680-106803-44), CV0971K-CSD6" (680-106803-45), CV0971K-CS12" (680-106803-46), CV0971K-CS18" (680-106803-47), CV0971K-CS24" (680-106803-48), FM0161AVa-CSO-4" (680-106803-49), FM0161AVb-CSO-4" (680-106803-50), CV0971E-CS6" (680-106803-51), CV0971E-CS12" (680-106803-52), CV0971E-CSD12" (680-106803-53), CV0971E-CS18" (680-106803-54), CV0971E-CS24" (680-106803-55), CV0971A-CS6" (680-106803-56), CV0971A-CS12" (680-106803-57), CV0971A-CS18" (680-106803-58), CV0971A-CSD18" (680-106803-59) and CV0971A-CS24" (680-106803-60) were analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C.

Iron recovery is outside criteria low for the MS of sample CV0971E-CS24"MS (680-106803-55) in batch 680-357015.

Aluminum, Arsenic, Iron and Lead have recovery outside criteria high for the MS and/or MSD of sample CV0971E-CS24"MSD (680-106803-55) in batch 680-357015.

Refer to the QC report for details.

PERCENT SOLIDS/MOISTURE

Samples CV0971AI-GS12" (680-106803-41), CV0971AI-GS18" (680-106803-42), CV0971AI-GS24" (680-106803-43), CV0971K-CS6" (680-106803-44), CV0971K-CSD6" (680-106803-45), CV0971K-CS12" (680-106803-46), CV0971K-CS18" (680-106803-47), CV0971K-CS24" (680-106803-48), FM0161AVa-CSO-4" (680-106803-49), FM0161AVb-CSO-4" (680-106803-50), CV0971E-CS6" (680-106803-51), CV0971E-CS12" (680-106803-52), CV0971E-CSD12" (680-106803-53), CV0971E-CS18" (680-106803-54), CV0971E-CS24" (680-106803-55), CV0971A-CS6" (680-106803-56), CV0971A-CS12" (680-106803-57), CV0971A-CS18" (680-106803-58), CV0971A-CSD18" (680-106803-59) and CV0971A-CS24" (680-106803-60) were analyzed for Percent Solids/Moisture in accordance with TestAmerica SOP.

ATTACHMENT D

QUALIFIED SAMPLE RESULTS

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0971AI-GS12" Lab Sample ID: 680-106803-41

Lab Name: TestAmerica Savannah Job No.: 680-106803-3

SDG ID.: 680-106803-03

Matrix: Solid Date Sampled: 10/29/2014 14:45

Reporting Basis: DRY Date Received: 10/31/2014 09:34

% Solids: 84.1

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	12000	22	11	mg/Kg			1	6010C
7440-38-2	Arsenic	21	2.2	0.64	mg/Kg			1	6010C
7439-89-6	Iron	30000	22	7.6	mg/Kg			1	6010C
7439-92-1	Lead	100	1.1	0.58	mg/Kg			1	6010C

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0971AI-GS18" Lab Sample ID: 680-106803-42

Lab Name: TestAmerica Savannah Job No.: 680-106803-3

SDG ID.: 680-106803-03

Matrix: Solid Date Sampled: 10/29/2014 14:55

Reporting Basis: DRY Date Received: 10/31/2014 09:34

% Solids: 83.9

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	13000	24	12	mg/Kg			1	6010C
7440-38-2	Arsenic	20	2.4	0.70	mg/Kg			1	6010C
7439-89-6	Iron	27000	24	8.3	mg/Kg			1	6010C
7439-92-1	Lead	120	1.2	0.63	mg/Kg			1	6010C

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0971AI-GS24" Lab Sample ID: 680-106803-43

Lab Name: TestAmerica Savannah Job No.: 680-106803-3

SDG ID.: 680-106803-03

Matrix: Solid Date Sampled: 10/29/2014 15:00

Reporting Basis: DRY Date Received: 10/31/2014 09:34

% Solids: 83.4

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	14000	24	12	mg/Kg			1	6010C
7440-38-2	Arsenic	21	2.4	0.69	mg/Kg			1	6010C
7439-89-6	Iron	32000	24	8.2	mg/Kg			1	6010C
7439-92-1	Lead	110	1.2	0.62	mg/Kg			1	6010C

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0971K-CS6" Lab Sample ID: 680-106803-44

Lab Name: TestAmerica Savannah Job No.: 680-106803-3

SDG ID.: 680-106803-03

Matrix: Solid Date Sampled: 10/29/2014 16:30

Reporting Basis: DRY Date Received: 10/31/2014 09:34

% Solids: 84.4

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	15000	21	10	mg/Kg			1	6010C
7440-38-2	Arsenic	36	2.1	0.61	mg/Kg			1	6010C
7439-89-6	Iron	43000	21	7.2	mg/Kg			1	6010C
7439-92-1	Lead	210	1.0	0.55	mg/Kg			1	6010C

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0971K-CSD6" Lab Sample ID: 680-106803-45

Lab Name: TestAmerica Savannah Job No.: 680-106803-3

SDG ID.: 680-106803-03

Matrix: Solid Date Sampled: 10/29/2014 16:35

Reporting Basis: DRY Date Received: 10/31/2014 09:34

% Solids: 85.0

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	15000	22	11	mg/Kg			1	6010C
7440-38-2	Arsenic	35	2.2	0.66	mg/Kg			1	6010C
7439-89-6	Iron	50000	22	7.8	mg/Kg			1	6010C
7439-92-1	Lead	170	1.1	0.59	mg/Kg			1	6010C

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0971K-CS12" Lab Sample ID: 680-106803-46

Lab Name: TestAmerica Savannah Job No.: 680-106803-3

SDG ID.: 680-106803-03

Matrix: Solid Date Sampled: 10/29/2014 16:45

Reporting Basis: DRY Date Received: 10/31/2014 09:34

% Solids: 87.6

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	15000	22	11	mg/Kg			1	6010C
7440-38-2	Arsenic	22	2.2	0.65	mg/Kg			1	6010C
7439-89-6	Iron	35000	22	7.8	mg/Kg			1	6010C
7439-92-1	Lead	55	1.1	0.59	mg/Kg			1	6010C

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0971K-CS18" Lab Sample ID: 680-106803-47

Lab Name: TestAmerica Savannah Job No.: 680-106803-3

SDG ID.: 680-106803-03

Matrix: Solid Date Sampled: 10/29/2014 17:00

Reporting Basis: DRY Date Received: 10/31/2014 09:34

% Solids: 80.9

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	13000	24	12	mg/Kg			1	6010C
7440-38-2	Arsenic	20	2.4	0.72	mg/Kg			1	6010C
7439-89-6	Iron	37000	24	8.6	mg/Kg			1	6010C
7439-92-1	Lead	26	1.2	0.65	mg/Kg			1	6010C

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0971K-CS24" Lab Sample ID: 680-106803-48

Lab Name: TestAmerica Savannah Job No.: 680-106803-3

SDG ID.: 680-106803-03

Matrix: Solid Date Sampled: 10/29/2014 17:15

Reporting Basis: DRY Date Received: 10/31/2014 09:34

% Solids: 74.6

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	16000	26	13	mg/Kg			1	6010C
7440-38-2	Arsenic	32	2.6	0.77	mg/Kg			1	6010C
7439-89-6	Iron	48000	26	9.2	mg/Kg			1	6010C
7439-92-1	Lead	90	1.3	0.70	mg/Kg			1	6010C

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: FM0161AVa-CSO-4" Lab Sample ID: 680-106803-49

Lab Name: TestAmerica Savannah Job No.: 680-106803-3

SDG ID.: 680-106803-03

Matrix: Solid Date Sampled: 10/30/2014 09:30

Reporting Basis: DRY Date Received: 10/31/2014 09:34

% Solids: 81.0

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	9000	24	12	mg/Kg			1	6010C
7440-38-2	Arsenic	11	2.4	0.72	mg/Kg			1	6010C
7439-89-6	Iron	21000	24	8.6	mg/Kg			1	6010C
7439-92-1	Lead	78	1.2	0.65	mg/Kg			1	6010C

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: FM0161AVb-CSO-4" Lab Sample ID: 680-106803-50

Lab Name: TestAmerica Savannah Job No.: 680-106803-3

SDG ID.: 680-106803-03

Matrix: Solid Date Sampled: 10/30/2014 09:45

Reporting Basis: DRY Date Received: 10/31/2014 09:34

% Solids: 84.2

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	11000	24	12	mg/Kg			1	6010C
7440-38-2	Arsenic	9.4	2.4	0.69	mg/Kg			1	6010C
7439-89-6	Iron	21000	24	8.2	mg/Kg			1	6010C
7439-92-1	Lead	49	1.2	0.62	mg/Kg			1	6010C

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0971E-CS6" Lab Sample ID: 680-106803-51

Lab Name: TestAmerica Savannah Job No.: 680-106803-3

SDG ID.: 680-106803-03

Matrix: Solid Date Sampled: 10/30/2014 10:20

Reporting Basis: DRY Date Received: 10/31/2014 09:34

% Solids: 85.2

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	15000	20	9.9	mg/Kg			1	6010C
7440-38-2	Arsenic	35	2.0	0.59	mg/Kg			1	6010C
7439-89-6	Iron	48000	20	7.0	mg/Kg			1	6010C
7439-92-1	Lead	140	0.99	0.53	mg/Kg			1	6010C

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0971E-CS12" Lab Sample ID: 680-106803-52

Lab Name: TestAmerica Savannah Job No.: 680-106803-3

SDG ID.: 680-106803-03

Matrix: Solid Date Sampled: 10/30/2014 10:35

Reporting Basis: DRY Date Received: 10/31/2014 09:34

% Solids: 86.4

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	15000	21	11	mg/Kg			1	6010C
7440-38-2	Arsenic	34	2.1	0.63	mg/Kg			1	6010C
7439-89-6	Iron	72000	21	7.4	mg/Kg		J	1	6010C
7439-92-1	Lead	90	1.1	0.56	mg/Kg			1	6010C

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0971E-CSD12" Lab Sample ID: 680-106803-53

Lab Name: TestAmerica Savannah Job No.: 680-106803-3

SDG ID.: 680-106803-03

Matrix: Solid Date Sampled: 10/30/2014 10:40

Reporting Basis: DRY Date Received: 10/31/2014 09:34

% Solids: 87.0

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	14000	21	11	mg/Kg			1	6010C
7440-38-2	Arsenic	28	2.1	0.63	mg/Kg			1	6010C
7439-89-6	Iron	40000	21	7.5	mg/Kg		J	1	6010C
7439-92-1	Lead	110	1.1	0.57	mg/Kg			1	6010C

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0971E-CS18" Lab Sample ID: 680-106803-54

Lab Name: TestAmerica Savannah Job No.: 680-106803-3

SDG ID.: 680-106803-03

Matrix: Solid Date Sampled: 10/30/2014 10:50

Reporting Basis: DRY Date Received: 10/31/2014 09:34

% Solids: 87.0

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	18000	21	11	mg/Kg			1	6010C
7440-38-2	Arsenic	43	2.1	0.62	mg/Kg			1	6010C
7439-89-6	Iron	65000	21	7.4	mg/Kg			1	6010C
7439-92-1	Lead	240	1.1	0.56	mg/Kg			1	6010C

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0971E-CS24" Lab Sample ID: 680-106803-55

Lab Name: TestAmerica Savannah Job No.: 680-106803-3

SDG ID.: 680-106803-03

Matrix: Solid Date Sampled: 10/30/2014 11:05

Reporting Basis: DRY Date Received: 10/31/2014 09:34

% Solids: 87.0

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	16000	21	10	mg/Kg			1	6010C
7440-38-2	Arsenic	50	2.1	0.62	mg/Kg			1	6010C
7439-89-6	Iron	67000	21	7.3	mg/Kg			1	6010C
7439-92-1	Lead	260	1.0	0.55	mg/Kg			1	6010C

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0971A-CS6" Lab Sample ID: 680-106803-56

Lab Name: TestAmerica Savannah Job No.: 680-106803-3

SDG ID.: 680-106803-03

Matrix: Solid Date Sampled: 10/30/2014 13:00

Reporting Basis: DRY Date Received: 10/31/2014 09:34

% Solids: 84.5

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	14000	21	11	mg/Kg			1	6010C
7440-38-2	Arsenic	30	2.1	0.63	mg/Kg			1	6010C
7439-89-6	Iron	36000	21	7.5	mg/Kg			1	6010C
7439-92-1	Lead	220	1.1	0.56	mg/Kg			1	6010C

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0971A-CS12" Lab Sample ID: 680-106803-57

Lab Name: TestAmerica Savannah Job No.: 680-106803-3

SDG ID.: 680-106803-03

Matrix: Solid Date Sampled: 10/30/2014 13:15

Reporting Basis: DRY Date Received: 10/31/2014 09:34

% Solids: 89.4

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	15000	22	11	mg/Kg			1	6010C
7440-38-2	Arsenic	27	2.2	0.63	mg/Kg			1	6010C
7439-89-6	Iron	46000	22	7.5	mg/Kg			1	6010C
7439-92-1	Lead	120	1.1	0.57	mg/Kg			1	6010C

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0971A-CS18" Lab Sample ID: 680-106803-58

Lab Name: TestAmerica Savannah Job No.: 680-106803-3

SDG ID.: 680-106803-03

Matrix: Solid Date Sampled: 10/30/2014 13:30

Reporting Basis: DRY Date Received: 10/31/2014 09:34

% Solids: 88.1

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	15000	22	11	mg/Kg			1	6010C
7440-38-2	Arsenic	32	2.2	0.66	mg/Kg			1	6010C
7439-89-6	Iron	40000	22	7.8	mg/Kg			1	6010C
7439-92-1	Lead	62	1.1	0.59	mg/Kg			1	6010C

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0971A-CSD18" Lab Sample ID: 680-106803-59

Lab Name: TestAmerica Savannah Job No.: 680-106803-3

SDG ID.: 680-106803-03

Matrix: Solid Date Sampled: 10/30/2014 13:35

Reporting Basis: DRY Date Received: 10/31/2014 09:34

% Solids: 87.7

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	14000	22	11	mg/Kg			1	6010C
7440-38-2	Arsenic	35	2.2	0.64	mg/Kg			1	6010C
7439-89-6	Iron	53000	22	7.6	mg/Kg			1	6010C
7439-92-1	Lead	99	1.1	0.58	mg/Kg			1	6010C

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0971A-CS24" Lab Sample ID: 680-106803-60

Lab Name: TestAmerica Savannah Job No.: 680-106803-3

SDG ID.: 680-106803-03

Matrix: Solid Date Sampled: 10/30/2014 14:00

Reporting Basis: DRY Date Received: 10/31/2014 09:34

% Solids: 88.6

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	14000	22	11	mg/Kg			1	6010C
7440-38-2	Arsenic	38	2.2	0.65	mg/Kg			1	6010C
7439-89-6	Iron	49000	22	7.7	mg/Kg			1	6010C
7439-92-1	Lead	55	1.1	0.59	mg/Kg			1	6010C

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)